



April 9, 2008

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**Board of Directors**

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Board Members, Central Valley Regional Water Quality Control Board  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670  
*Sent via facsimile & email*

**Re: Draft Methylmercury TMDL for the Delta (February 2008 Version)**

Dear Board Members:

Since the March 2007 Workshop, the District has had several meetings with your staff and we appreciate your staff's efforts to meet with the District, particularly those of your Executive Officer and Assistant Executive Officer in devoting their attention and energies to keep the parties talking. Unfortunately, very little has changed from the February 2007 version of the TMDL, despite substantial stakeholder opposition and significant concerns raised by Regional Board Members at the March 2007 Workshop. The District continues to have significant concerns about the basic premises and approach to regulating mercury in the Delta as outlined in the February 2008 draft TMDL. The District's key concerns with the Delta Mercury TMDL are listed below; a more detailed discussion of each of these issues follows this cover letter.

- *The proposed Delta Mercury TMDL will not control the most significant sources of methylmercury (open waters and tributaries) because they are not assigned to any responsible party - reduction of those sources is the responsibility of the State of California.*
- *The Regional Board should re-think its approach to focusing primarily on methylmercury, and instead move forward with Total Mercury control measures during Phase I.*
- *The 0.06 ng/L water concentration "goal" should be removed; it is redundant, unnecessary and premature until the Phase I methylmercury control studies are completed. The proposed fish tissue objectives are the appropriate endpoint for the TMDL.*
- *Offset projects, specifically SRCSD's pilot offset project will not occur under the current draft TMDL. The current focus on methylmercury load reductions prevents interested parties from pursuing Total Mercury removal projects. A mechanism must be in place by which the District can be assured to receive a reasonable credit for its offset project.*

The District appreciates the efforts that the Regional Board and its staff have devoted to address mercury impairment of the Delta, and stands ready to do its part to help. We fundamentally believe it is time for the Regional Board to reassess the staff's intended implementation plan. We believe the suggestions contained herein, along with those addressed in the "Coordinated Stakeholders Group" letter of April 9, 2008, would be a good starting point from which to make the necessary changes to the Delta Mercury TMDL.

Thank you for the opportunity to provide these comments.

Sincerely yours,

Mary K. Snyder, District Engineer

Attachment - Ongoing Concerns with Delta Mercury TMDL

**Attachment - Ongoing Concerns with Delta Mercury TMDL**

(1) **The Delta Mercury TMDL Has NO Chance of Controlling the Most Significant Sources of Mercury.** A close look at the current Delta Mercury TMDL reveals that the Regional Board staff has no idea how the most significant sources of mercury loading to the Delta will be controlled. The most significant sources of Methylmercury (and Total Mercury) loadings, per the current Delta Mercury TMDL, are uncontrollable, largely comprised of in-Delta and upper watershed sediment sources that are present in open water and wetland areas of the Delta and major tributaries. As indicated from the attached tables and pie-chart graphic, fully more than 75% of all suspected Methylmercury loads to the Delta come from these open water and tributary sources - - and none of these sources are assigned to any party for reduction. In most cases, the “solution” is future adoption of various TMDLs for these independent tributaries and waterways. As such, the current Delta TMDL provides no real plan for controlling these upper-watershed mercury loadings from open waterways.

The bottom line is that the major sources of mercury loads to the Delta are “legacy” – related to gold mining going back to 1849. The sources of this “legacy” mercury are sediments in Waters of the State of California. It would seem appropriate that the State of California be allocated responsibility for this 75% portion of the identified methylmercury loading to the Delta.

(2) **At This Time, The Regional Board Should Re-Think Its Approach to Controlling ALL Forms of Mercury Affecting the Delta.** Most nationwide efforts to control mercury impairments of surface waters have been focused on Total Mercury management. Even as recently as last year, the State Water Board approved a Mercury TMDL for San Francisco Bay that focuses on Total Mercury, and how to control these sources from affecting Bay fish and other wildlife. The Central Valley Regional Board is the first agency to attempt to manage methylmercury directly (and as a separate constituent, largely decoupled from Total Mercury). And while it is well-accepted that methylmercury is the form of this pollutant that primarily accumulates in fish and wildlife, it is not well-known how to implement projects to specifically control methylmercury at present, or whether such controls will work in the future.

Stated somewhat differently, there are some ideas of potential controls on some point sources of methylmercury, but we really don't have a very good handle on whether such controls are reasonable or effective. No meaningful information exists regarding our ability to control non-point legacy sources of this pollutant, which are the predominant sources of methylmercury. The Regional Board Members heard much discussion last March about the difficulties in trying to control discharges of methylmercury from wetlands, agricultural lands, and open waterways. The Regional Board also heard last March that traditional point source dischargers (such as POTWs and urban runoff) account for less than 4% of all the methylmercury loading to the Delta. Lastly, the Regional Board heard last March something with which few scientists disagree - - that you cannot get methylmercury without the presence of Total Mercury; methylmercury is formed from biological action on Total Mercury.

The question to be asked is, if we don't really know how to control the methylmercury loading to the Delta, and there isn't a realistic expectation of controlling these sources any time soon, shouldn't the Regional Board reconsider its approach to managing Total Mercury in the Delta? In other words, by focusing efforts on preventing and reducing discharges of Total Mercury to the Delta and its up-watershed tributaries during Phase I of the TMDL, in parallel with methylmercury research work,

don't we stand a better chance of reducing overall production and discharges of methylmercury to the Delta? After appropriate studies are completed during Phase I of the TMDL as currently contemplated, the Regional Board, and all stakeholders, will be in a better position to determine what control measures can reasonably and effectively be applied to sources.

SRCSO does not object to the Regional Board moving forward with a methyl-mercury TMDL for the Delta. However, SRCSO does believe that an appropriate implementation plan for achieving long-term methylmercury reductions should focus current actions on Total Mercury sources and their removal or remediation. We know that without Total Mercury, one cannot have methylmercury. We know how to remove total mercury. There is no downside to waiting for the science to adequately characterize sources and recommend future control options for methylmercury.

(3) **The 0.06 ng/L Water Concentration "Goal" Should Be Removed.** At the Mercury TMDL Workshop last March, Regional Board Members heard much testimony about the 0.06 ng/L water concentration "goal" contained in the current version of the Delta TMDL, and had a lively discussion about whether the TMDL should properly focus on water column, sediment or fish tissue as a means of calculating compliance with the TMDL. There are at least five reasons why the 0.06 "goal" should be removed.

First, it is redundant and unnecessary. The point of a TMDL is to establish a load, or mass loading limits, of a given pollutant (particularly bioaccumulative pollutants such as mercury) in order to achieve beneficial uses that are impaired. Imposition of mass limits will lead to actions by regulated sources to reduce loadings of mercury, which is certainly the desired outcome. Imposition of concentration limits would add an additional, unnecessary requirement to reduce concentrations as well as mass loadings. This would force changes in treatment technology at many POTWs, which would greatly reduce the incentive for offset projects by those agencies.

Second, focusing on fish tissue is not only a better indicator of whether controls on all loading sources are working, it strikes at the heart of the reason that the Delta was listed as impaired by mercury - - fish consumption impacts. The District continues to support the staff recommendation relative to establishing a fish tissue standard against which future mercury reduction and removal actions can be assessed.

Third, the 0.06 ng/L "goal" is something that probably cannot be met by a number of POTWs that discharge to the Delta, short of tearing down and rebuilding from scratch their entire biological treatment processes. If this is the approach that the Regional Board favors, then at least the Regional Board must take responsibility not only for the enormous cost to ratepayers and taxpayers (current estimates range from between \$500 Million and One Billion, depending on ultimate treatment technologies mandated) but also for the colossal amount of energy that will be required to operate those systems, and the attendant production of hundreds of tons of greenhouse gas emissions.

Fourth, despite assurances from Regional Board staff at the March 2007 workshop that the 0.06 "goal" will never find its way into NPDES permits as a limit, the current proposed TMDL now states that this goal could be in NPDES permits as an effluent limit in as little as eight (8) years.

Fifth, other state and federal agencies may interpret the Central Valley Regional Board's 0.06 "goal" as the best and latest information on this issue and are likely to turn the "goal" into a statewide water



quality standard, which would ultimately be imposed on POTWs as new permit limits outside the direct control of the Central Valley Regional Board.

In sum, the District believes that putting this water concentration "goal" into the Delta Mercury TMDL is not only problematic and unnecessary for the reasons noted, but it is premature until the Phase I methylmercury control studies are completed and assessed. Staff should see if reduction expectations support the water concentration goal and adaptively manage methylmercury allocations at the end of Phase 1.

(4) **Offset Projects Will Not Occur Under the Current Proposal.** Last March, Regional Board Members stated their near-unanimous support for the notion of pilot offset projects as a means by which to make early, and real, reductions to the overall loading of mercury in and around the Delta. Moreover, the Regional Board indicated its desire for its staff and the District to work toward developing an appropriate and viable offset project.

SRCSO continues to not only support the offset approach, but remains interested in commencing a pilot offset project to reduce total mercury loadings from the Cache Creek Settling Basin to the Yolo Bypass. While SRCSO and Regional Board staff have met and exchanged ideas about how such an offset project would work and might be credited on the basis of total mercury, unfortunately, it has become clear that the determination of a mutually acceptable credit for methylmercury is not possible. This is largely due to the fact that neither the Regional Board staff nor the District can identify a way to locate or quantify a methylmercury control project.

There are certainly many unknowns regarding the transformation of Total Mercury to Methylmercury and, in some cases, back to Total Mercury. To be sure, trying to develop an appropriate and viable offset approach that tries to bridge the gap between Total and Methylmercury is so complicated that it prevents agreement on an offset credit arrangement. This is another, significant reason for the Regional Board to consider refocusing its Phase I efforts towards the removal of Total Mercury from the system. Doing so will remove this roadblock and create the near-term opportunity for offset projects that will reduce the amount of Total Mercury entering the Delta.

The District stands ready to move forward on a pilot mercury offset project in the Cache Creek Settling Basin that will not only result in substantial Total Mercury being removed from the Delta system, but also help the Regional Board and stakeholders interested in future offset projects by chronicling and assessing the "lessons learned" along the way. A mechanism must be in place by which the District can be assured to receive a reasonable credit for its offset project and the current TMDL does not provide that mechanism.

**Summary of Methylmercury Loads & Reductions:  
Proposed Mercury TMDL for the Sacramento-San Joaquin Delta**

<b>Table A Agriculture Methylmercury Allocations</b>			
Delta Sub-Area Receiving Source Input	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Central Delta	37	0%	37
Marsh Creek	2.2	83%	0.37
Mokelumne & Consumnes Rivers	1.6	49%	0.82
Sacramento River	36	44%	20
San Joaquin River	23	75%	5.8
West Delta	4.1	0%	4.1
Yolo Bypass	19	84%	3
<b>Sub-Total: Agriculture Sources</b>	<b>123</b>		<b>70.7</b>

<b>Table A Wetland Methylmercury Allocations</b>			
Delta Sub-Area Receiving Source Input	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Central Delta	210	0%	210
Marsh Creek	0.34	83%	0.058
Mokelumne & Consumnes Rivers	30	49%	15
Sacramento River	94	44%	53
San Joaquin River	43	75%	11
West Delta	130	0%	130
Yolo Bypass	480	84%	77
<b>Sub-Total: Wetlands Sources</b>	<b>987.3</b>		<b>496.1</b>

<b>Table B Municipal &amp; Industrial Wastewater Methylmercury Allocations</b>				
Sub-Area	Source	Existing Load (g/yr) <i>ref. Feb 07 BPA</i>	% Reduction Required <i>ref. Feb 07 BPA</i>	Load Allocation (g/yr)
Central Delta	Discovery Bay WWTP	0.42	0%	0.37
	Lodi (City of) White Slough WWTP	0.92	0%	0.93
	San Joaquin Co. DPW 31-Flag City WWTP	0.007	0%	0.007
	<i>Unassigned Allocation for New Discharges</i>	0	0%	.30
Marsh Creek	Brentwood (City of) WWTP	0.085	73%	0.14
	<i>Unassigned Allocation for New Discharges</i>	0	0%	.12
Sacramento River	Rio Vista (City of) WWTP	0.11	44%	0.06
	SRCS D – Elk Grove Walnut Grove WWTP	0.24	44%	0.13
	Sacramento (City of) Combined WWTP	0.43	44%	0.24
	SRCS D Sacramento River WWTP	160	44%	90.0
	West Sacramento (City of) WWTP	0.40	0%	0.62
	<i>Unassigned Allocation for New Discharges</i>	0	0%	8.4
San Joaquin River	Deuel Vocational Inst. WWTP	0.013	0%	0.02
	Manteca (City of) WWTP	1.4	72%	0.38
	Oakwood Lake Subdivision Mining Recl	0.40	0%	0.38
	Stockton (City of) WWTP	36	75%	9
	Tracy (City of) WWTP	1.9	59%	0.77
	<i>Unassigned Allocation for New Discharges</i>	0	0%	2.2

\* Tables, information and data presented herein are taken from the February 2008 Draft Mercury TMDL for the Delta, except where shaded values from February 2007 Draft Mercury TMDL Basin Plan Amendment (BPA).

\*\*Many inconsistencies in required % reductions occur between February 2008 BPA and February 08 staff report.

Sub-Area	Source	Existing Load (g/yr) <i>ref. Feb 07 BPA</i>	% Reduction Required <i>ref. Feb 07 BPA</i>	Load Allocation (g/yr)
West Delta	<i>Unassigned Allocation for New Discharges</i>	0	0%	0.57
Yolo Bypass	Woodland (City of) WWTP	.26	0%	0.40
	<i>Unassigned Allocation for New Discharges</i>	0	0%	0.42
<b>Sub-Total: Municipal &amp; Industrial Wastewater Sources (Sub-Total: February 2008 staff report)</b>		202.59 (205.69)		115.45

**Table E  
Urban Stormwater Methylmercury Allocations**

Sub-Area	Source	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Central Delta	Contra Costa (County of)	0.75	0%	0.75
	Lodi (City of)	0.053	0%	0.053
	Port of Stockton MS <sup>4</sup>	0.39	0%	0.39
	San Joaquin (County of)	0.57	0%	0.57
	Stockton Area MS <sup>4</sup>	3.6	0%	3.6
Marsh Creek	Contra Costa (County of)	1.2	75%	0.30
Mokelum.River	San Joaquin (County of)	0.045	49%	0.023
Sacramento River	Rio Vista (City of)	0.014	44%	0.0078
	Sacramento Area MS <sup>4</sup>	1.8	44%	1.0
	San Joaquin (County of)	0.19	44%	0.11
	Solano (County of)	0.073	44%	0.041
	West Sacramento (City of)	0.65	44%	0.36
	Yolo (County of)	0.073	44%	0.041
San Joaquin River	Lathrop (City of)	0.27	75%	0.068
	Port of Stockton MS <sup>4</sup>	0.01	75%	0.0025
	San Joaquin (County of)	2.2	75%	0.55
	Stockton Area MS <sup>4</sup>	0.50	75%	0.13
	Tracy (City of)	1.8	75%	0.45
West Delta	Contra Costa (County of)	3.2	0%	3.2
Yolo Bypass	Solano (County of)	0.085	75%	0.021
	West Sacramento (City of)	1.1	75%	0.28
	Yolo (County of)	0.33	75%	0.083
<b>Sub-Total: Urban Stormwater Sources</b>		18.9		12.03

**Table G  
Open Water Methylmercury Allocations**

Source	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Central Delta	370	0%	370
Marsh Creek	0.18	83%	0.031
Mokelumne River	4.0	0%	4.0
Sacramento River	140	0%	140
San Joaquin River	48	0%	48
West Delta	190	0%	190
Yolo Bypass	100	84%	16
<b>Sub-Total: Open Water Sources</b>	852.18		768

**Table H  
Tributary Watershed Methylmercury Allocations**

Sub-Area	Source	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Central Delta	Calaveras River	26	0%	26
	Bear/Mosher Creeks	11	0%	11
	Bethany Reservoir Area	TBD	0%	TBD
Marsh Creek	Marsh Creek	1.9	82%	0.34
Mokelum.River	Mokelumne River	110	70%	33

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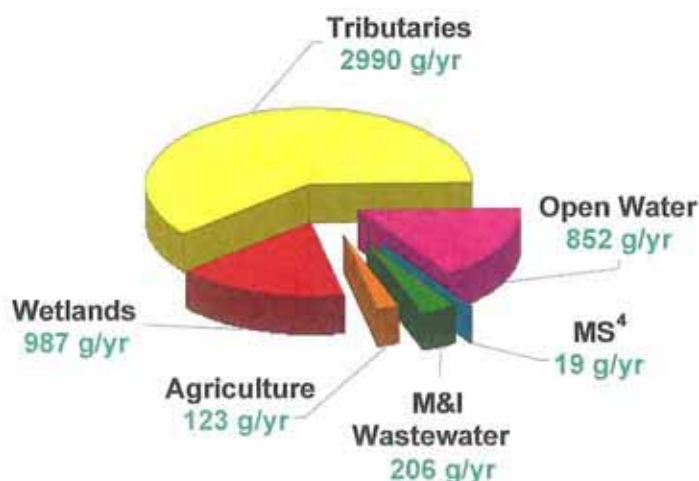


Sub-Area	Source	Existing Load (g/yr)	% Reduction Required	Load Allocation (g/yr)
Sacramento River	Sacramento River	2000	50%	1000
	Morrison Creek	7.5	50%	3.8
San Joaquin River	San Joaquin River		69%	110
	French Camp Slough	360	64%	4.0
	Manteca-Escalon, Mountain House & Corral Hollow Creeks Areas	11	0%	TBD
West Delta	Antioch & Montezuma Hills Areas		0%	TBD
Yolo Bypass	Cache Creek Settling Basin	TBD	92%	14
	Cache Slough/Lindsey Slough/Dixon Areas	TBD	79%	0.76
	Fremont Weir	140	50%	90
	Knights Landing Ridge Cut	3.6	74%	26
	Putah Creek	180	72%	3.1
	Ulati Creek	100	79%	2.0
	Willow Slough	11	79%	3.8
	Prospect Slough			
<b>Sub-Total: Tributary Watershed Sources</b>		<b>2990</b>		<b>1327.8</b>
<b>Total: All Sources</b>		<b>5177</b>		<b>2790</b>

### Synopsis of Methylmercury Loads & Reductions By Source Category

Source (percentage of all sources)	Existing Load (g/yr)	Load Allocation (g/yr)
Tributary Watersheds (58%)	2990	1328
Wetlands (19%)	987	496
Agriculture (2%)	123	71
Open Water (17%)	852	768
Municipal & Industrial Wastewater (4%)	206	116
Urban Stormwater (<1%)	19	12
<b>Total All Sources</b>	<b>5177</b>	<b>2790</b>

Uncontrollable Sources:  
4953 g/yr  
- or -  
96%



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